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The West American Scientist.

Vol. XIV. No. 3. *Feb. 1903.* *Whole No. 122.*

Southern California Lichens.

ACOLIUM BOLANDERI Tuck.
SD, on rocks and pebbles (Or 2118). Baja. Hasse, Erythea 3:41; 4:159—"A teredo-like fungus and not a lichen." (Stizenberger).
ALECTORIA CANARIENSIS Mont.
San Diego (Palmer).
ARTHONIA ANASTOMOSANS Ach.
Hasse, Erythea 3:44; 4:108. On various barks, LA Co.
ARTHONIA DISPERSA (Schrad).
Hasse, Erythea 3:44, on Quercus, LA Co
Variety TETRAMERA Stiz.
Hasse, Erythea 4:108. On Quercus.
Variety CYTISII Mass.
Hasse, Erythea 4:108. On Quercus.
ARTHONIA EPIGINA Tuck.
San Diego (Or).
ARTHONIA GLOBOSA Tuck.
San Diego mesas (Or 2132).
ARTHONIA ORBOLIFERA Ach.
Hasse, Erythea 4:108. On Heteromeles.
ARTHONIA PREMNEA Tuck.
Hasse, Erythea 4:150, LA Co, on dead twigs.
ARTHONIA RADIATA Pers.
Hasse, Erythea 3:14, on Juglans and Quercus, LA Co; 4:108.
ARTHONIA SANGUINEA Hig.
Baja, on cacti (Or).
ARTHONIA STICTELLA Stiz.
Hasse, Erythea 4:108. On bark.
BIATORA ATROPURPUREA Fr.
San Diego (Or 2125).
BIATORA COARCTATA Nyl.
Hasse, Erythea 4:97, 108, LA Co, on earth and rocks.
BIATORA CYRTELLA Nyl.
Hasse Erythea 4:98, LA Co, on Juglans and Quercus.
BIATORA DECIPIENS Fr.
San Diego mesas! Baja!
BIATORA FRANCISCANA Tuck.
Hasse, Erythea 4:97, LA Co, on sandstone.
BIATORA GLOBIFERA Fr.
Hasse, Erythea 4:150, LA Co. SD mesas! Baja (Or 2178).
BIATORA MIXTA Fr.
Hasse, Erythea 4:108, LA Co, on shrubs.
BIATORA NAEGELII Hepp.
Hasse, Erythea 4:108, LA Co, on shrubs
BIATORA TURGIDULA Nyl.
Hasse, Erythea 4:150, Los Angeles Co.
BIATORA VARIANS Ach.
Hasse, Erythea 4:150, Los Angeles Co.
BUELLIA BOLANDERI Tuck.
Hasse, Erythea 3:44, Los Angeles Co.
BUELLIA BOLACINA Tuck.
Hasse, Erythea 3:41, LA Co. SD (Or). Baja.
BUELLIA GEOGRAPHICA Tuck.
Variety LECANORINA Floerk.
Hasse, Erythea 3:41, Los Angeles Co.
BUELLIA HALONIA Tuck.
Pt Loma, S D, on rocks (Or); San Telmo, Baja (Or 2139). Hasse, Erythea 4:108, Los Angeles Co.
BUELLIA LEPIDASTRA Tuck.
Hasse, Erythea 4:108, LA Co, on rocks.
BUELLIA MYRIOCARPA Mudd.
Hasse, Erythea 3:44, LA Co. SD (Or 2130).
BUELLIA PARASEMA Fr.
Hasse, Erythea 3:13, LA Co; 4:108.
Variety TRIPHRAGMIA Nyl.
Hasse, Erythea 3:44, LA Co, on Rhus.
BUELLIA PARASITICA.
Near San Telmo, Baja, on Lecanora pallescens!
BUELLIA PETRAEA Tuck.
Hasse, Erythea 4:108, LA Co, on rocks.
Variety MONTAGNAEI Tuck.
Hasse, Erythea 4:98, on quartz, LA Co.
BUELLIA SIDALEA Tuck.
SD (Or 2159, on Euphorbia misera). Washington.
Hasse, Erythea 4:108, LA Co, on various barks.
Variety PENICHRA Tuck.
Hasse, Erythea 3:43; 4:108, LA Co.
BUELLIA STELLULATA B-R.
Hasse, Erythea 4:98, 108, LA Co on rocks San Diego (Or 2134)?
CALICIUM TURBINATUM.
San Diego!
CETRARIA CALIFORNICA Tuck.
Hasse, Erythea 3:41, Los Angeles Co.
CHIODECTON SPHAEROTUM Tuck.
San Diego (Or 2124).
CLADONIA FIMBRIATA Fr.
Throughout N. A. on earth and rotten logs. San Diego!
Variety TUBAEFORMIS Fr.
SD! Hasse, Erythea 3:43, LA Co.
CLADONIA FURCATA Fr.
San Diego!
Variety RACEMOSA Fr.
Hasse, Erythea 3:43, Los Angeles Co.
CLADONIA GRACILIS Nyl.
San Diego!
CLADONIA PYXIDATA Fr.
Hasse, Erythea 3:43, LA Co; 4:107, on earth.
COLLEMA FLACCIDUM Ach.
Hasse, Erythea 3:42, Los Angeles Co.

COLLEMA LIMOSUM Ach.
Hasse, Erythea 4:97, Los Angeles Co.
COLLEMA NIGRESCENS Ach.
Hasse, Erythea 3:42, Los Angeles Co.
COLLEMA PULPOSUM Nyl.
Hasse, Erythea 4:97, LA Co, on earth and rocks.
ENDOCARPISCUM GUEPINI Nyl.
Hasse, Erythea 3:42; 4:106, LA Co, on earth.
ENDOCARPON HEPATICUM Ach.
Hasse, Erythea 4:9 , LA Co, on clay.
ENDOCARPON PUSILLUM Tuck.
San Diego mesas!
EVERNIA PRUNASTRI Ach.
Pt Loma, SD, on Euphorbia misera (sterile)! Hasse, Erythea 3:41, LA Co.
EVERNIA VULPINA Ach.
SD mts, on pines; Cuyamaca (Or 421). Baja mts! Used by the Indians as a substitute for sugar, it is said. Hasse, Erythea 3:41, Los Angeles Co.
HEPPIA DESPREUXII Mont.
San Diego.
LECANACTIS ABIETINA.
San Diego on Pinus Torreyana!
LECANACTIS CALIFORNICA Tuck.
Hasse, Erythea 4:108, LA Co, on Quercus.
LECANACTIS PREMINEA.
Punta Banda, Baja!
LECANORA ATHROCARPA Nyl.
Hasse, Erythea 4:97, 107, LA Co, on bark
LECANORA ATRA Ach.
N. A. SD, on rocks and pebbles! Hasse, Erythea 4:107.
LECANORA BADIA Ach.
Hasse, Erythea 3:42; 4:107, LA Co, on rocks.
LECANORA BRUNONIS Tuck.
Hasse, Erythea 3:43, Los Angeles Co.
LECANORA CALCAREA Som.
Hasse, Erythea 4:150, Los Angeles Co.
LECANORA CENISIA Ach.
SD, on Pinus Torreyana (Or 2141). Hasse, Erythea 4:107, Los Angeles Co, on earth.
LECANORA CERVINA Nyl.
Colorado Desert, SD Co (Or 2180).
LECANORA CHLOROPHANA Ach.
Hasse, Erythea 3:42, Los Angeles Co.
LECANORA CINEREA Som.
SD Hasse, Erythea 3:43, LA Co.
Variety GIBBOSA Nyl.
Hasse, Erythea 3:43, LA Co; 4:107.
LECANORA FUSCATA Fr.
Hasse, Erythea 4:97, LA Co, on rocks.
Variety OLIGOCARPA Nyl.
LECANORA GLAUCOCARPA Ach.
LECANORA HAYDENI Tuck.
Mesas near San Quintin, Baja; a very peculiar species, usually attached to small pebbles!
Laramie plains, Nebraska on the earth, detached and infertile (Hayden).
LECANORA MELANOPSIS Ach.
Hasse, Erythea 4:150, Los Angeles Co.
LECANORA MURALIS Schaer.
Mesas, SD on earth and rocks (Or 2136). Hasse, Erythea 3:42; 4:106, Los Angeles Co
Variety DIFFRACTA Fr.
Hasse, Erythea 3:42, Los Angeles Co.
LECANORA PACIFICA Tuck.
SD, on Quercus dumosa! Oregon. Hasse, Erythea 3:42, Los Angeles Co.
LECANORA PALLESCENS Schaer.
Near San Telmo, Baja! Hasse, Erythea 3:43, Los Angeles Co.
LECANORA PALLIDA Schaer.
SD, on Quercus dumosa (Or 2175). N. A.
Variety CANCRIFORMIS Tuckerman.
SD; Baja; on bark of trees and shrubs!
Hasse, Erythea 3:42; 4:107, LA Co.
LECANORA PERGUIS Tuck.
Near San Telmo, Baja, on rocks (Or 2115), and San Quintin (2119).
LECANORA PRIVIGNA Nyl.
Hasse, Erythea 3:43, LA Co; 4:107, on rocks.
Variety PRUINOSA Hasse.
Hasse, Erythea 3:43, Los Angeles Co.
Variety REVERTENS Tuck.
Hasse, Erythea 4:97, Mt Echo, on quartz
LECANORA SCHLEICHERI Nyl.
SD, on earth (Or 2175). Rocky mts (Hayden, Parry).
LECANORA SUBFUSCA Ach.
SD, on Rhus integrifolia (Or 2143). Hasse, Erythea 3:42; 4:107.
Variety ALLOPHANA Ach.
San Diego (Or 2150)?
Variety CAMPESTRIS Nyl.
Hasse, Erythea 4:97, LA Co on trees.
Variety COILOCARPA Ach.
Hasse, Erythea 4:97, LA Co, on rocks.
LECANORA VARIA Nyl.
SD, on bark (Or 2147)?—Hasse, Erythea 3:42, Los Angeles Co.
LECANORA XANTHOPHANA Nyl.
Hasse, Erythea 3:43, LA Co; 4:107, on rocks.
LECIDEA ALBO-ATRA Hoffm.
Variety AMBIGUA Ach.
Hasse, Erythea 3:43, Los Angeles Co.
LECIDEA AROMATICA Ach.
Hasse, Erythea 4:108.
LECIDEA BRANDEGEI Tuck.
Hasse, Erythea 3:43, Los Angeles Co.
LECIDEA CRUSTARIA Tuck.
Sweetwater canyon, S Diego, on rocks.
LECIDEA CUMULATA Som.
Hasse, Erythea 3:43, Los Angeles Co.
LECIDIA ENTEROLEUCA Fr.
Cosmopolitan. Pt Loma, SD, on rocks!
Hasse, Erythea 4:108, Los Angeles Co.
Variety FLAVIDA Fr.
Hasse, Erythea 4:108, on rocks.
Variety ACHRISTA Som.
Hasse, Erythea 3:43, Los Angeles Co.
Variety AMBIGUA Anz.
Hasse, Erythea 4:150, Los Angeles Co.
LECIDEA LAPICIDA Fr.
Hasse, Erythea 3:43, Los Angeles Co.
Variety DECLINASCENS Nyl.
Hasse, Erythea 4:108, LA Co, on rocks.
LECIDEA LATYPIZA Nyl.
Hasse, Erythea 3:43, Los Angeles Co.
LECIDEA MORIO Schaer.
Hasse, Erythea 4:150, LA Co, on argillaceous rock.
LECIDIA NASSATA.
Mission valley, San Diego!
LECIDEA PLATYCARPA Ach.
Hasse, Erythea 4:108, on rocks.
LECIDEA SQUALIDA Ach.
Variety CAULESCENS Nyl.
Hasse, Erythea 4:108.
LECIDEA SYLVANA Koerb.
Hasse, Erythea 4:108, on dead twigs.
LEPTOGIUM MYOCHRUM Tuck.
Hasse, Erythea 3:42, Los Angeles Co.
OPEGRAPHA ATRORIMALIS Nyl.
Hasse, Erythea 3:44, Los Angeles Co.
OPEOGRAPHA RIMALIS Ach.
Hasse, Erythea 4:150, near San Pedro, Cal., on bushes.
OPEOGRAPHA VULGATA.

San Diego, Cal. (Orcutt).
PANNARIA LEPIDIOTA Fr.
Hasse, Erythea 4:97, Los Angeles Co.
Variety CYANOLEPRA Tuck.
Hasse, Erythea 4:97, Los Angeles Co.
PANNARIA MICROPHYLLA Delis.
Hasse, Erythea 4:107, LA Co, on earth.
Forma CALIFORNICA Tuckermann.
Hasse, Erythea 3:42, Los Angeles Co.
PANNARIA NIGRA Nyl.
Hasse, Erythea 4:97, LA Co, on stones.
PARMELIA BAILIANA Nyl.
Hasse, Erythea 4:100, LA Co, on Quercus; "identical with the Chilean plant" (Stizenberger).
PARMELIA CONSPERSA Ach.
Arctic America to Mexico, SD, on rocks, stones, bushes and earth! Baja (Or 2169). Hasse, Erythea 3:41, LA Co; 4:106.
PARMELIA OLIVACEA Ach.
SD Co, on Quercus agrifolia! Hasse, Erythea 3:41, Los Angeles Co.
Variety ASPIDOTA Ach.
Hasse, Erythea 3:41, Los Angeles Co.
PARMELIA PERFORATA Ach.
Cosmopolitan. Baja, sterile (Or 2162).
PARMELIA PHYSODES Ach.
San Diego, on shrubs (Or 2161).
Variety ENTEROMORPHA Tuck.
Hasse, Erythea 3:41, Los Angeles Co.
PARMELIA TILIACEA Flork.
Hasse, Erythea 3:41, Los Angeles Co.
PELTIGERA CANINA Hoffm.
Hasse, Erythea 3:42, LA Co; 4:97, on ground among mosses.
PERTUSARIA FLAVICUNDA Tuck.
Pt Loma, SD (Or 2129), Table mt, Baja (H. C. Orcutt and C. C. Parry in 1885). Hasse, Erythea 4:97, LA Co, on coast rocks.
PERTUSARIA LECANINA Tuck.
Hasse, Erythea 4:106, San Bernardino range, on trunks of trees.
PERTUSARIA PUSTULATA Nyl.
SD! Throughout the U. S. Hasse, Erythea 3:42, Los Angeles Co.
PHYSCIA ADGLUTINATA Nyl.
Hasse, Erythea 3:42, Los Angeles Co.
PHYSCIA CRISPA Nyl.
Hasse, Erythea 3:42, Los Angeles Co.
PHYSCIA HISPIDA Tuck.
Hasse, Erythea 3:42, Los Angeles Co.
PHYSCIA OBSCURA Nyl.
Hasse, Erythea 3:42, Los Angeles Co.
PHYSCIA TRIBACEA Tuck.
La Paz, Baja (Palmer); California (Bolander; New England; S. C.; La.
PHYSCIA STELLARIS L.
Arctic Am to Mexico, Atlantic to Pacific, SD (Or 2164), Valle de los Palmas, Baja, on Prospis juliflora (Or 2163). Hasse, Erythea 3:42, Los Angeles Co.
Variety AIPOLIA Nyl.
Hasse, Erythea 3:42, LA Co; SD, on rocks, common.
Variety HISPIDA Schreb.
San Diego, on old roofs and fences.
PHYSCIA ERINACEA Tuck.
Hasse, Erythea 3:42, LA Co. SD, on Euphorbia misera!
PHYSCIA CILIARIS DC.
Hasse, Erythea 3:42, Los Angeles Co.
PHYSCIA PULVERULENTA Nyl.
Hasse, Erythea 3:42, Los Angeles Co.
Forma MUSCIGENA Hasse, Erythea 3:42, Los Angeles Co.
Variety LEUCOLEIPES Tuck.
Hasse, Erythea 4:97, Los Angeles Co.
PLACODIUM AURANTIACUM N-H.
Cosmopolitan. Pt Loma, SD, on Euphorbia misera! Hasse, Erythea 4:103, LA Co, on Quercus.
PLACODIUM FERRUGINEUM Hepp.
SD (Or 2176). Hasse, Erythea 4:105, LA Co.
P. CINNABARINUM Anz.
A common rock lichen throughout the U. S. San Diego (Or 2169).
PLACODIUM MURORUM DC.
Sweetwater canyon, SD, on rocks! Hasse, Erythea 4:106.
Variety MINIATUM Tuck.
Hasse, Erythea 3:42, Los Angeles Co.
Variety GYALOLECHIOIDES Muell.
Hasse, Erythea 4:103, Los Angeles Co.
PLACODIUM BOLACINUM Tuck.
Mesas, SD, on pebbles (Or 2116). Hasse, Erythea 3:42, Los Angeles Co.
PLACODIUM CERINUM Hedw.
On Malvastrum Thurberi, SD! Hasse, Erythea 3:42, Los Angeles Co.
PLACODIUM LUTEO-MINIUM Tuck.
SD, on earth (J. G. Cooper). Hasse, Erythea 3:42, Los Angeles Co.
PLACODIUM VITELLINUM N-H.
Hasse, Erythea 3:42, Los Angeles Co.
PLACODIUM FULGENS DC.
Near San Quintin Baja! Greenland, Nebraska, Wyoming, Nebraska, on calcareous soils.
PYRENULA LACTEA.
San Diego!
PYRENULA PUNCTIFORMIS N-H.
San Diego, on Pinus Torreyana!
PYXINE PICTA Tuck.
On Sambucus glauca, Baja! S. C., Texas, Mexico.
RAMALINA CALICARIS Fr.
Eastern U. S. from Canada to Mexico.
Variety FARINACEA Schaer.
Hasse, Erythea 4:98, Catalina on twigs.

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Southern California Lichens.

RAMALINA CERUCHIS De Not.
Hasse, Erythea 3:41, LA Co; 4:96, on shrubs near the coast (forma cephalota Tuck).

RAMALINA CRINITA Tuck.
"Thallus caespitose, rigid, compressed, sub-dichotomous, linear-laciniate, at length much dilated, greenish-glaucous, the divisions smooth, interruptedly white-striate, and becoming lacuoes, attenuate at the summits, and clothed at the margins more or less thickly with strong, solitary or clustered, finally branched, black fibrils: apothecia middling-sized to large (3-10 mm in width), subterminal and lateral, subpodicellate, varying as to smoothness as the thallus, the margins blackened; spores oblong-ellipsoid 15-20—5-6 mic."Tuckerman, Torr cl b 10:43.

RAMALINA HOMALEA Ach.
On Euphorbia misera, Pt Loma, SD (Or 2126), Todos Santos bay, Baja (Or 2150, on shrubs), Coast of Cal, on rocks (Menzies). Hasse Erythea 4:150, Los Angeles Co.

RAMALINA INTERMEDIA Del.
Hasse, Erythea 4:98,on shrubs, Catalina

RAMALINA MENZIESII Tuck.
Baja (Or 2152); on rocks and shrubs! Hasse, Erythea 3:41, Los Angeles Co.

RAMALINA POLLINARIA Ach.
San Diego (Palmer).

RAMALINA RETICULATA Kremp.
Vancouver's Island (J. Macoun). Near El Cajon valley, SD Co, on Quercus agrifolia (Or), and near Todos Santos bay, Baja (Or2153). Hasse, Erythea 3.41. LA Co.

RINODINA ANGELICA Stiz.
"Thallus similar to R. oreina Mass, but differing in size of spores; these 16-20 by 8-10 mic., short ellipsoid, obtuse. Hymenial structures blue with iodine. Thallus yellow with potassium hydrate. Mr 1893. On rocks, Santa Monica range, Los Angeles Co., Calif." —Hasse, Erythea 3:43.
Hasse, Erythea 4:107, LA Co, on rocks.

RINODINA BOLODES Tuck.
Baja! SD, on earth (Or 2149).

RINODINA CONRADI Kaerb.
Europe. SF (Bolander). SD mesas, on pebbles! Hasse, Erythea 4:97, 107, on earth and rocks.

RINODINA OREINA Mass.
Hasse, Erythea 3:43, Los Angeles Co.

RINODINA RADIATA Tuck.
Mesas, SD, on stones (Or 2117). Near San Quintin, Baja (Or 2113). Hasse, Erythea 3:43, Los Angeles Co.

RINODINA SOPHODES Nyl.
Baja, on Sambucus glauca! SD (Or 2172). Throughout N. A., on trees, stones and dead wood. Hasse, Erythea 3:43, LA Co; 4:107.

RINODINA SUCCEDENS Nyl.
Hasse, Erythea 4:107, LA Co, on bark.

RINODINA THYSANOTA Tuck.
Hasse, Erythea 3:43, Los Angeles Co.

ROCCELLA LEUCOPHAEA Tuck.
SD, on shrubs, (Or 2168). Hasse, Erythea 4:150, LA Co, on Lycium Cal'cum. cum.

Variety MINOR Tuck.
Hasse, Erythea 4:150, Catalina, on rocks exposed to ocean spray.

ROCCELLA PHYCOPIS Ach.
SD; Cape of Good Hope; Peru; Maderra; Cuba.

ROCCELLA TINCTORIA D C
Mexico, on rocks (Krempelhuber); Baja (Or); SD (Palmer, Or).

SCHIZOPELTE CALIFORNICA Fr.
San Diego (Palmer).

STEREOCAULON ALBICANS Nyl
Pt Loma, SD! Guadalupe Island (Palmer). Not rare on the ground under bushes, mesas or canyons. Rocky mts, Colo. (Brandegee).

STYLOGRAPHA PARALLELA Nyl.
San Diego mesas.

THELOCHISTES LYCHNEUS Nyl.
Forma LACINIOSA Cehaer.
Hasse Erythea 3:41, LA Co.

THRYSOPTHALMUS Norm.
Cosmopolitan. SD; Baja (Or 2146), on Prosopis pubescens. Hasse, Erythea 3:41, Los Angeles Co.

Variety FLAVICANS Wallr.
S. C. Texas. Mexico. Near San Quintin bay, Baja, very large, abundant, homely specimens, incrusted with salt and usually detached from the earth (Or 2148). Near Colton, Cal. on Adenostoma (Parry),—very delicate and beautiful specimens! Hasse, Erythea 3:41, LA Co.

THELOCHISTES PARIETINUS Norm.
SD (Or 2144). Shores of Lake Superior. New England. New York.
Hasse, Erythea 4:106—"forma terrestris, on moist coast rocks," LA Co.

Variety POLYCARPUS Tuck.
Cosmopolitan, SD (Or 2145).

UMBILICARIA PHAEA Tuck.
Hasse, Erythea 3:42, LA Co.

UMBILICARIA SEMITENSIS Tuck.
Hasse, Erythea 3:42, Los Angeles Co.
URCEOLARIA GYPSACEA Nyl.
Hasse, Erythea 4:107, LA Co, on earth. San Diego.
URCEOLARIA SCRUPOSA Nyl.
Hasse, Erythea 3:43, LA Co; 1:107, on earth. SD! Throughout N. A.
USNEA BARBATA Fr.
SD, sterile, on fences (Or 2169.—N. A. Baja.
Variety HIRTA Fr.
Hasse, Erythea 3:41, LA Co; 1:106, SD sterile on Adenostoma fasciculatum (Or 2170), and other shrubs.
Variety RUBIGINEA Michoe.
San Diego (Or 2171).
USNEA JUBATA Fr.
USNEA OCHROLEUCA Fr.
VERRUCARIA CERASI Schrad.
Hasse, Erythea 3:44, on Malvastrum Thurberi, Los Angeles County.
VERRUCARIA INTERCEDANS.
Variety AETHIOBOLOIDES Nyl.
Hasse, Erythea 3:44 Los Angeles Co.
VERRUCARIA NIGRESCENS.
San Diego mesas on pebbles (Or)?
VERRUCARIA PLUMBAEA Sm.

"Thallus smooth, whitish gray and darkening, spores colorless, bilocular, ellipsoid, each cell slightly constricted, 12-16 by 4-6 mic. Paraphyses distinct. Reaction with iodine; yellow to bronze with potassium hydrate. On various bushes, Santa Monica Range; frequent."—Hasse, Erythea 3:44. (Los Angeles Co., Calif.).

VERRUCARIA PUNCTIFORMIS Ach.
Hasse, Erythea 4:150. "On Heteromeles."
VERRUCARIA PAPILLOSA Kaerb.
Variety TERRESTRIS Arnold.
Hasse, Erythea 4:151.—"On earth; with minute black apothecia."
VERRUCARIA VIRIDULA Schrad.
Hasse, Erythea 3:44, Los Angeles Co.
ACOLIUM SIL. JACOBI Tuck.

"Thallus of white granules soon compacted into a chinky crust; apothecia of middling size in this genus (in the solitary specimens 1 mm. 5-8 in width, and about the same in height, of the substance and color of the thallus, more or less turbinate, the interior exciple yellow, the disk more or less protruded, black, but yellowish green at the surface. Spores (no thekes observed) rounded and short-ellipsoid, bi-locular, 0.020-40 mm long, 0.15-18 mm wide." Tuckerman. Torr el b 10:22. Mesas, SD (Fringle! Or).

The above list, concluded from page 22, is far from complete, but enumerates all known to the writer as far as they have been specifically determined, by Dr. Tuckerman and others. Dr. H. E. Hasse's list has been added from Eryth.

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South side of Cuyamaca peak, San Diego county, California.

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